IP NETWORK DNR COLOR CAMERA
USER'S MANUAL

CAUTION
RISK OF ELECTRIC SHOCK DO NOT OPEN

TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with an arrowhead symbol, within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

INFORMATION - This equipment has been tested and found to comply with limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

WARNING - Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

CAUTION : To prevent electric shock and risk of fire hazards:
- Do NOT use power sources other than that specified.
- Do NOT expose this appliance to rain or moisture.

This installation should be made by a qualified service person and should conform to all local codes.

Precaution

Do not Keep the camera face to strong light directly

Do not install the camera in extreme temperature conditions.

Do not disassemble the camera even if troubles happened

To avoid malfunctions, never use the camera close to a gas or oil leak

Do not drop the camera or subject them to physical shocks.

Do not expose the camera to rain or spill beverage on it.

Do not install the camera under unstable lighting conditions

Do not install or use the camera in an environment where the humidity is high

Contents

1. Features ---------- 6
2. Components ---------- 8
3. Names and Functions of Parts ---------- 9
4. Installation ---------- 11
5. Setup Menu Flow ---------- 14
6. How to Set up the Function ---------- 16
- 6-1. EXPOSURE ---------- 17
- 6-2. WHITE BAL ---------- 21
- 6-3. DAY/NIGHT ---------- 22
- 6-4. MOTION ---------- 23
- 6-5. PRIVACY ---------- 26
- 6-6. OPTION ---------- 27
- 6-7. DISPLAY ---------- 31
- 6-8. SYNC ---------- 32
- 6-9. INITIAL ---------- 33
- 6-10. EXIT ---------- 33

7. Specifications ---------- 34

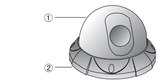
1. Features

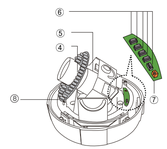
- 1/3" Sony Super HAD CCD
- Color 560 TV Lines : NTSC(410,000 pixels), PAL(470,000 pixels)
- True Day & Night (ICR Type-IR Cut Filter Removable)
- DNR (Digital Noise Reduction) technology resulting in a clear and sharp image display even in the dark
- DSS (Digital Slow Scan)
- IR LED : 40 units 850nm Infrared LED 20,000hrs
- Night View Distance : Indoor 40m / Outdoor 20m
- Compression : MPEG4 encoder , JPEG encoder - Independent resolution, frame rate and bit rate video compression (30fps @ NTSC, 25fps @ PAL)
- 4 Resolution Selectable : D1, Half D1, 2CIF, CIF
- CBR/VBR selectable (CBR : 100kbps ~ 5Mbps / VBR : low, normal, high)
- Various softwares for PC, PDA and mobile phone
- 50 Concurrent Access
- Event based automatic or manual control of relay output (open / short control)
- Alarm by e-mail & SMS in case of event (video loss, motion and sensor triggering)
- Pre-alarm and Post-alarm video recording in the PIMA server in case of event (motion and sensor triggering)
- Intelligent motion detection and alarm triggering
- DDNS and all IP addresses (Global, Private, Dynamic and Static IP address) supported
- Multi-level user ID & password
- Encryption of user ID/password, video, audio, data
- Remote configuration and status using web-based tool
- Firmware upgradable for future proof
- User web page uploadable into the network camera

2. Components

Super DNR Color Camera	
Service Video Cable	
Screws & 1/2" Bolt	
Rubber Seal Pad	
CD	
Cross Cable	

3. Names and Functions of Parts





① Dome

② Dome Cover

③ Base

④ Focus Handle
Used to provide for accurate of an object within the lens field of view

⑤ Zoom Handle
Used to adjustzoom magnification by turning

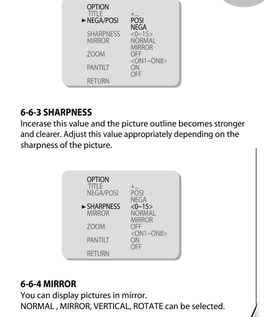
⑥ OSD Menu

⑦ Service Video

Used to connect it with external viewer as follows.

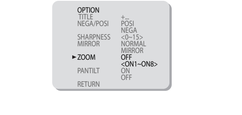
⑧ IR LED

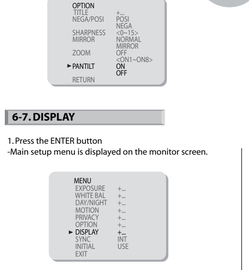
4. Installation



1. Remove screws with Wrench provided in the box.
2. Disassemble the camera as shown above.
3. Install the base of camera on a desired location.
4. Adjust the position of the camera. If required, readjust the Vari-focal Lens settings.
5. Closed the dome cover and seal the camera with the ring Make sure screws are fastened tightly

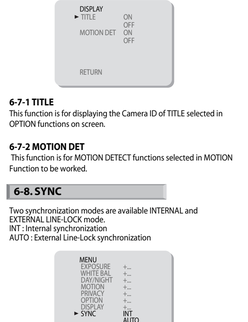
4-2 Connection





5. Setup Menu Flow

1) MAIN SETUP



6. How to Set up the Function

You can set up functions by using the 5 buttons on the side of the camera.(Camera O.S.D)
You can set up functions by using the 4 buttons on the screen of the program.(NVR Program)

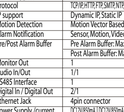
1. Press the ENTER button(Camera O.S.D)
-Main setup menu is displayed on the monitor screen.

1. Press the Camera Menu button(NVR Program)
-Main setup menu is displayed on the monitor screen.

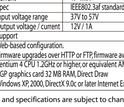
2. Select a desired function by using the Up and Down buttons
-Place the cursor over a desired item.

3. Set up a selected item by using the Left and Right buttons.
4. To finish the setting, 'EXIT' and press the 'ENTER' button.

6-1. EXPOSURE



1. When the MENU screen is displayed, select 'EXPOSURE' by using the Up and Down buttons so that the arrow indicates 'EXPOSURE'.
2. Select a desired mode by using the right button.



6-1-1 LENS
Choose the lens type DC or Manual lens by using the selector button.

6-1-2 BRIGHTNESS
Choose the brightness level from 0 to 60 steps.

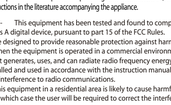
6-1-3 BACKLIGHT
You can choose backlight by turning ON or OFF.

6-1-4 SHUTTER
You can select either auto or manual shutter.
-1/60, FLC , 1/250~1/10000

-When LENS is DC, it is possible to select it. Another becomes NOT USE. It becomes 1/60 at NTSC. It becomes 1/50 at PAL.

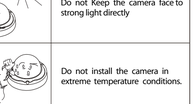
6-1-5 AGC
Automatic Gain Control is a feature which adjust gain automatically according to the incoming Signal.
By positioning the arrow to 'AGC' on the EXPOSURE menu with the help of UP and DOWN buttons, you can select the LOW, MID and HIGH, AGC OFF Mode you wish to go.

6-1-6 SENS UP
You can always get the clear image with this function under night or lowlighting level
-OFF, <X2~X32>



6-2. WHITE BAL

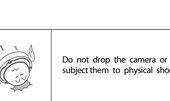
1. Press the ENTER button
-Main setup menu is displayed on the monitor screen.



2. Select a desired function by using the Up and Down buttons
-Place the cursor over a desired item
3. Set up a selected item by using the Left and Right buttons.
4. To finish the setting, 'EXIT' and press the 'ENTER' button.

6-2-1 WB MODE
Use the White Balance function to adjust the screen color.

1. When the MENU screen is displayed, select 'WHITE BAL' by using the Up and Down buttons so that the arrow indicates 'WHITE BAL'.
2. Select a desired mode by using right and left buttons.



Select one of the following 3 modes, for your appropriate purpose
-ATW, AWC, MANUAL

6-3. DAY/NIGHT

1. Press the ENTER button
-Main setup menu is displayed on the monitor screen.

2. Select a desired function by using the Up and Down buttons
-Place the cursor over a desired item
3. Set up a selected item by using the Left and Right buttons.
4. To finish the setting, 'EXIT' and press the 'ENTER' button.

6-3-1 DAY/NIGHT
You can display pictures in color or black and white.

1. When the MENU screen is displayed, select 'DAY/NIGHT' by using the Up and Down buttons so that the arrow indicates 'DAY/NIGHT'.

2. Select a desired mode by using the Left and Right buttons according to the picture display you want.
-AUTO, DAY, NIGHT, EXT

6-3-2 AUTO LEVEL
When it is AUTO, 0 to 18 can be selected.(It changes by setting AGC)
-AGC OFF : NOT USE
-AGC LOW : 0 to 3 can be selected.
-AGC MID : 0 to 11 can be selected.
-AGC HIGH : 0 to 18 can be selected.

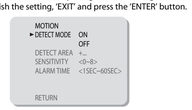
6-3-3 FILTER DLY
When it is AUTO, 4 to 10 can be selected. When AGC is OFF, NOT USE. Another becomes NOT USE.

6-4. MOTION

Your camera transmits an alert signal when it detects motion of an object on the screen. If you connect the camera to an external alarm, you can pay attention to the screen when the alarm sounds. This feature is useful when you have to monitor on serveral screens simultaneously. Whenever your camera detects motion of object, 'MOTION' will be displayed with the number counted up on the screen.

1. Press the ENTER button
-Main setup menu is displayed on the monitor screen.

2. Select a desired function by using the Up and Down buttons
-Place the cursor over a desired item
3. Set up a selected item by using the Left and Right buttons.
4. To finish the setting, 'EXIT' and press the 'ENTER' button.



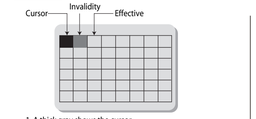
6-4-1 DETECT MODE
OFF or ON can be selected.
-Turning on becomes invalid while displaying OSD.
-However, it becomes effective only at MOTION AREA.

6-4-2 DETECT AREA
MOTION AREA is displayed.

6-4-3 SENSITIVITY
0 to 8 can be selected.

6-4-4 ALARM TIME
1 to 60 can be selected.

MOTION AREA



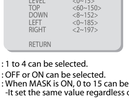
1. A thick gray shows the cursor.
2. When it is transparent, the area becomes effective.
- Default is ALL transparent, it is ALL effective.
3. When it is light gray, the area becomes invalidity.
4. Cursor moved by LEFT or RIGHT.
5. When UP or DOWN is pushed, it becomes effective or invalid.
6. Menu is returns to the MOTION.
■ BLC automatically becomes effective on this screen.

6-5. PRIVACY

Hide an area you want to hide on the screen

1. Press the ENTER button
-Main setup menu is displayed on the monitor screen.

2. Select a desired function by using the Up and Down buttons
-Place the cursor over a desired item
3. Set up a selected item by using the Left and Right buttons.
4. To finish the setting, 'EXIT' and press the 'ENTER' button.

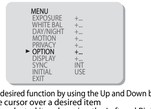


1) AREA : 1 to 4 can be selected.
2) MASK : OFF or ON can be selected.
3) LEVEL : When MASK is ON, 0 to 15 can be selected.
-It set the same value regardless of a set value of AREA

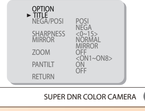
4) TOP : When MASK is ON, 3 to 124(NTSC) or 6 to 150(PAL) can be selected.
5) DOWN : When MASK is ON, 5 to 126(NTSC) or 8 to 152(PAL) can be selected.
6) LEFT : When MASK is ON, 0 to 187(NTSC) or 0 to 185(PAL) can be selected.
7) RIGHT : When MASK is ON, 2 to 189(NTSC) or 2 to 187(PAL) can be selected.

6-6. OPTION

1. Press the ENTER button
-Main setup menu is displayed on the monitor screen.



2. Select a desired function by using the Up and Down buttons
-Place the cursor over a desired item
3. Set up a selected item by using the Left and Right buttons.
4. To finish the setting, 'EXIT' and press the 'ENTER' button.



6-6-1 TITLE
If you enter a title, the title will appear on the monitor.

1. If the OPTION menu screen is displayed, use the Up and Down buttons so that the arrow indicates 'TITLE'.

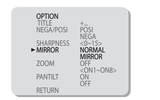
2. Set up a selected item by using the Left and Right buttons.
3. Use the 4 direction buttons to move to desired letter and select the letter by pressing the 'ENTER' button. Repeat this to enter multiple letters. You can enter up to 10 letters.
4. Enter a title, move the cursor to 'POS' and press the ENTER button. The entered title appears on the screen. When the position is determined, select 'END' and press the ENTER button to return to the OPTION menu.

6-6-2 NEGA/POSI
You can display pictures in Positive or Negative.

1. If the OPTION menu screen is displayed, use the Up and Down buttons so that the arrow indicates 'NEGA/POSI'.
2. Set up a selected item by using the Left and Right buttons.

6-6-3 SHARPNESS
Incerase this value and the picture outline becomes stronger and clearer. Adjust this value appropriately depending on the sharpness of the picture.

6-6-4 MIRROR
You can display pictures in mirror.
NORMAL , MIRROR, VERTICAL, ROTATE can be selected.



6-6-5 ZOOM
OFF(x1) and ON1 to ON8(x4) can be selected.
When PAN/TILT is ON, it is NOT USE.

6-6-6 PANTILT
This function can be used when setted ON in ZOOM function.
Please select the PANTILT ON and get out from Menu and operate the PAN/TILT by pressing the buttons of UP,DOWN, RIGHT(R), LEFT(L) on the Back Side of Camera.

6-7. DISPLAY

1. Press the ENTER button
-Main setup menu is displayed on the monitor screen.

2. Select a desired function by using the Up and Down buttons
-Place the cursor over a desired item
3. Set up a selected item by using the Left and Right buttons.
4. To finish the setting, 'EXIT' and press the 'ENTER' button.

6-7-1 TITLE
This function is for displaying the Camera ID of TITLE selected in OPTION functions on screen.

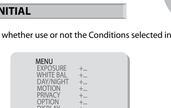
6-7-2 MOTION DET
This function is for MOTION DETECT functions selected in MOTION Function to be worked.

6-8. SYNC

Two synchronization modes are available INTERNAL and EXTERNAL LINE-LOCK mode.
INT : Internal synchronization
AUTO : External Line-Lock synchronization

6-9. INITIAL

It shows whether use or not the Conditions selected in SYNC.



6-10. EXIT

To finish setting menu.

7. SPECIFICATIONS

Camera	TV System	NTSC	PAL
	Sensor	Sony 1/3" SuperHAD Sensor	
	Horizontal Resolution	560 TV Lines (Max.)	
	S/N	More than 50dB (7 _Aperture, AGC off)	
	Min. Illumination	0.01lx (F1.4 ,50IRE)	
	Sense UP	Max. 32 times, 0.0001lx	
	γ Correction	0.45	
	AGC	+18dB Max.	
	WB Control	Electrical IRIS / Lens IRIS (DC Lens)	
	Electrical Shutter	1/60~1/120,000	1/50~1/120,000
	O.S.D	Built-in	
		LENS,BRIGHTNESS,BACKLIGHT	
		SHUTTER, AGC, SENSE UP	
		WHITE BAL, DAY/NIGHT, MOTION	
		PRIVACY, TITLE, NEGA/POSI,	
		SHARPNESS, MIRROR, ZOOM, PAN/TILT	
	Lens	4(wide)2~3(mid)2.4(tel) f=3mm(2.4)~9.6(tel)	
	IR LED	40 units 850nm Infrared LED, 20,000hrs	
	Night View Distance	Indoor 40m / Outdoor 20m	
	Dimensions	160(H) x 120(W) mm	
	Channel	1Channel	
	Compression	MPEG4 / JPEG (JPEG compression for mobile monitoring)	
Video	Resolution (Max.)	NTSC : 720 x 480(D1)	PAL : 720 x 576(D1)
	Frame Rate (Max.)	NTSC : Up to 30 fps in all resolutions	
		PAL : Up to 25 fps in all resolutions	
Audio	Direction	Full Duplex(MIC,Speaker Port support)	
	Compression	ADPCM (8khz sampling)	
Applications	Viewer@PC (NVR 16CH)	Support	
	Web Viewer@PC	Support(Built-in)	
	PDA Viewer@PDA	Support(IPOC 2002)	
	Viewer@Mobile Phone	Support(WAP base)	
	Viewer@PC (A/V Communicator 1CH)	Support	

Network	API	API Support (OCX ,DLL Support)	
		Operating System: Linux, Windows XP, 2000	
	Physical Layer	10/100Base TX Ethernet	
	DDNS Support	Use PIMA server	
	Protocol	TCP/IP,HTTP,FTP,SMTP,NTP,ARP,DDNS,DHCP,UDP	
	IP support	Dynamic IP, Static IP	
Event & Alarm	Motion Detection	Motion Vector Based	
	Alarm Notification	Sensor, Motion, Video loss	
	Pre/Post Alarm Buffer	Pre Alarm Buffer: Max. 10 seconds	
		Post Alarm Buffer: Max. 20 seconds	
Connectors	Monitor Out	1	
	Audio In/Out	1/1	
	RS485 Interface	1	
	Digital In / Digital Out	2/1	
	Ethernet Jack	4pin connector	
	Power Supply /current	DC12V/60mA | DC12V/80mA | AC24V / 70mA | PoE Option	
	Factory Reset	1	
Digital In	Voltage	3V	
	Current	+/-4mA	
	Type	NC/NO	
Digital Out	Voltage	3V	
	Current	+/-4mA	
POE	Spec	IEEE802.3af standard	
	Input voltage range	37V to 57V	
	Output voltage / current	12V / 1A	
WDT	Support		
Configuration and management	Web-based configuration. Firmware upgrades over HTTP or FTP, firmware available at pima1.net		
Minimum web browsing requirements	Pentium 4 CPU 1.2GHz or higher, or equivalent AMD, 128 MB RAM, AGP graphics card 32 MB RAM, Direct Draw Windows XP, 2000, DirectX 9.0c or later Internet Explorer 6.x or later		

Design and specifications are subject to change without notice.

DISTRIBUTED BY